



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: ECL-113

September 23, 1998

Reply To
Attn Of: HW-113

Kathleen E. Hain, Manager
Environmental Restoration Program
Department of Energy
Idaho Operations Office
850 Energy Drive
Idaho Falls, Idaho 83401-1563

Re: Five-Year Review, Idaho National Engineering and
Environmental Laboratory (INEEL) Test reactor Area (TRA) Warm
Waste Pond OU 2-10.

Dear Ms. Hain:

The EPA has completed a Five-Year Review of the Test Reactor Area Warm Waste Pond sediments (OU 12-10) Interim Action at INEEL. The EPA has concluded that the remedies selected for this site remain protective, and that these remedies will be augmented consistent with the Test Reactor Area Comprehensive Record of Decision (OU 2-13), signed in December, 1997. Since the TRA Warm Waste Pond Interim Action has been superceded by the TRA Comprehensive ROD, subsequent Five Year Reviews for OU 2-10 should be performed as part of the TRA Comprehensive ROD Five-Year Review process. A copy of the review is enclosed. If you have any questions, please contact me at (206) 553-8633.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard Poeton".

Richard Poeton, WAG 2 Manager

encl

cc: D. Nygard, IDHW, 1410 N. Hilton, Boise, ID 83706, w/encl
G. Winter, IDHW, 1410 N. Hilton, Boise, ID 83706, w/encl
W. Pierre, ECL-113, w/encl
Glenn Nelson, DOE, w/encl

U.S. Environmental Protection Agency
Region 10
Office of Environmental Cleanup
Five-Year Review
Idaho National Engineering and Environmental Laboratory
Test Reactor Area Warm Waste Pond
Operable Unit 2-10

1. Introduction

EPA Region 10 has conducted a Five-Year Review of the Idaho National Engineering Laboratory (INEEL) Test Reactor Area (TRA) Warm Waste Pond sediments (OU 2-10), and prepared this report consistent with the requirements of Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Section 300.400(f)(4)(ii) of the National Contingency Plan (NCP). The purpose of this review is to ensure that the remedial action remains protective of public health and the environment and is functioning as designed. This review (Type Ia) is applicable to a site at which response is ongoing.

The Warm Waste Pond is part of the Test Reactor Area, which is one of the ten Waste Area Groups of the INEEL NPL site for which comprehensive Records of Decision (RODs) are being developed under the INEEL Federal Facility Agreement and Consent Order (FFA/CO). Until an INEEL-wide coordinated schedule for five year reviews of all operable units is developed, each ROD is being treated separately by Region 10 for the purposes of five year reviews.

2. Site Location and Description

The INEEL is located 32 miles west of Idaho Falls, Idaho and occupies 890 square miles of the northeastern portion of the Eastern Snake River Plain. The TRA is located in the southwestern portion of the INEEL. The Warm Waste Pond is located approximately 200 feet east of TRA and consists of three former wastewater infiltration/evaporation cells comprising approximately 4 acres. Discharges to the Warm Waste Pond included reactor cooling water, radioactive wastewater, and regenerative solutions from ion exchange resins. Current land use at the INEEL is classified as industrial and mixed use by the Bureau of Land Management. The developed area within the INEEL is surrounded by a 500 square mile buffer used for livestock grazing.

The TRA Warm Waste Pond sediments were remediated under an Interim Action Record Of Decision (ROD), signed in December of 1991. Subsequent to the

ROD, a Pilot-Scale Treatability Study was performed which indicated that the treatment goals expected in the ROD for contaminated soils could not be met. As a result, the contingency remedy identified in the ROD (which consisted of covering the ponds with a soil cap) was implemented. The contingency required modification, however, to provide for consolidation of contaminated soils prior to capping. An Explanation of Significant Difference (ESD) was prepared in March of 1993 in accordance with Section 117(c) of CERCLA and NCP Section 300.435(c)(2)(i). Five years have elapsed since the beginning of remediation field work, thus triggering this Five-Year Review.

3. Remedial Objectives

Based on the ROD and the ESD, the remedy consisted of consolidation of the sediments from the largest and least contaminated cell into the other two cells, thereby reducing the area of contamination requiring future management by more than 60%. The remedy included backfilling excavated areas with clean soils and placement of soil covers over the consolidated sediments to reduce radiation fields. The ESD specified that the consolidation areas would be brought to grade by including similarly-contaminated soils from INEEL as fill. These actions were determined to be adequate to protect human health and the environment, and would in addition be addressed as part of the Comprehensive Remedial Investigation/Feasibility Study for the TRA (OU 2-13).

The remedial action addressed each of the three Warm Waste Pond cells (the 1952 cell, the 1957 cell and the 1964 cell). Approximately 4 feet of sediments from the sidewalls and 3 feet of sediments from the bottom of the 1964 cell were excavated and placed in the bottom of the 1952 cell. Stockpiled soil from a 1992 removal action to clean up windblown soil contamination near the Warm Waste Pond was then placed in the 1952 cell, bringing it to surface level. The 1952 cell was then covered with 1 foot of clean fill at a 2% slope. The 1964 cell was backfilled with approximately 10 feet of clean material and revegetated. The 1957 cell sidewall sediments, along with the remaining stockpiled material, were scraped into the bottom of the 1957 cell. A small wooden structure associated with the Warm Waste Pond was demolished and disposed of in the 1957 cell. The 1957 cell was then covered with approximately one half foot of clean fill but not capped since the remaining available volume was designated for consolidation of similar radiologically contaminated soils from other INEEL locations. In the years since the remedial action, radiologically contaminated soils, primarily from the OU 10-06 sitewide contaminated soils removal actions, have been placed in the 1957 cell. The 1957 cell is now essentially full, similar to the 1952 cell.

The Remedial Action Report for the TRA Warm Waste Pond sediments was completed in June, 1994, documenting completion of the interim remedial action at the warm waste Pond in accordance with the Remedial Design/Implementing Remedial Action Work Plan dated September 10, 1993.

Subsequent to the Warm Waste Pond Interim Action ROD and the completion of the Interim Action construction, The TRA Comprehensive Remedial Investigation/Feasibility Study (RI/FS) evaluated the Warm Waste Pond sediments, the risks associated with them, and the results of the Interim Action. The TRA RI/FS was completed in February, 1997. The TRA Comprehensive ROD signed in December, 1997 selected containment and institutional controls as the remedy for the Warm Waste Ponds, consistent with the Interim Action, and also specified additional engineered features for the covers to the ponds to enhance long term durability. Institutional controls for the Warm Waste Ponds, as well as for the other sites addressed in the TRA Comprehensive ROD, will be specified as part of the Remedial design.

A site visit on September 2, 1998 by staff from the Idaho Division of Environmental Quality included an inspection of the Warm Waste Pond. That inspection determined that the remedy, including institutional controls, was still in place and identified no significant erosion, disturbance or intrusion of the area.

4. Recommendations

The actions completed under the Warm Waste Pond Interim Action to consolidate and cover the contaminated sediments have been effective in reducing short term risks. In accordance with the TRA Comprehensive ROD, completed actions under the Warm Waste Pond Interim Action will be augmented with an engineered cover for the 1952 and 1957 cells, and with a basalt riprap or cobble layer for the 1964 cell. These actions will inhibit potential future intrusion and will provide for long term durability of the remedy. The TRA Warm Waste Pond Interim Action ROD has been superceded by the TRA Comprehensive ROD. Subsequent five-year reviews for the Warm Waste Ponds should be performed as part of the TRA Comprehensive ROD five-year review process.

5. Statement of Protectiveness

I certify that the remedies selected for this site remain protective of human health and the environment.

6. Next Review.

Until an INEEL-wide coordinated schedule for five year reviews of all operable units is developed, each ROD is being treated separately by Region 10 for the purposes of five year reviews. Since the TRA Warm Waste Pond Interim Action ROD has been superceded by the TRA Comprehensive ROD, the next five year review for

the Warm Waste Pond sediments will be performed as part of the TRA Comprehensive ROD five year review. Mobilization for the TRA Comprehensive ROD Remedial Action is scheduled to begin in March, 1999 and the first TRA Comprehensive ROD five year review is therefore planned to be no later than March, 2004. In the event that the planned TRA Comprehensive ROD Remedial Action schedule is not met, the next review for the Warm waste Pond sediments will be performed no later than September, 2003.

9/18/98
Date

Ann Williamson for *Randy Smith*
Randall F. Smith, Director
Office of Environmental Cleanup